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**Notice of Allowability**

Application No.

10/028,304

Applicant(s)

CHOI ET AL.

Examiner

Johannes P. Mondt

Art Unit

2826

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3/2/05 (Amendment under 1.111).
2. ☒ The allowed claim(s) is/are 1-11, 21-29 and 31.
3. ☒ The drawings filed on 28 December 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input type="checkbox"/> Other _____   |

## **DETAILED ACTION**

### ***Response to Amendment***

Amendment filed March 2, 2005, forms the basis of this office action. In said Amendment Applicant amended the Specification in response to an objection to the Specification, and amended claims 26 and 28 in response to an objection to claims 26-27 and 28-29.

### **EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Rebecca Goldman Rudich (Reg. No.: 41,786) on March 18, 2005.

#### **BEGIN OF EXAMINER'S AMENDMENT**

*In Claim 26, line 14*, the wording "wherein the semiconductor layer" has been replaced by "a semiconductor layer";

*In Claim 26, line 15*, the wording "electrode has a shape" has been replaced by "electrode, wherein said semiconductor layer has a shape".

#### **END OF EXAMINER'S AMENDMENT**

## REASONS FOR ALLOWANCE

### ***Claims 1-11, 21-29 and 31 are allowed.***

2. The following is an examiner's statement of reasons for allowance:

1. ***Claims 1-11, 21-29 and 31*** are allowed. The following is a statement of reasons for the indication of allowable subject matter:

1. With regard to ***claims 1-11***: the range limitation between the first and second angle as recited in claim 1 has not been found in the prior art. Specifically neither Miyawaki nor Lee et al nor Nakamura as made of record teach said further range limitation.

2. With regard to ***claims 21-25***: although the limitations on data line, gate line, source electrode, drain electrode, semiconductor layer, gate electrode and shape of gate electrode are in the prior art (Lee et al, 6,274,884 B1), and although said first and second width must both exist, Lee et al is silent on the ordering of said first and second widths (overlapping width between source and gate and between drain and gate, respectively), while in Lee reduction of parasitic capacitance is achieved by the shape of the source electrode rather than by the shape of the gate electrode as recited in the final two lines of the independent claim 21 (see for comparison the abstract in Lee et al).

3. With regard to ***claims 26-27***: closely related art is Lee et al (6,274,884 B1). However, Lee et al do not teach the limitation "wherein the semiconductor layer comprising the channel and located above the gate electrode has a shape of a funnel having a first portion and a second portion in a plan view, said second portion displaced

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from said first portion along the length direction of the funnel, the first overlapping area between the source electrode and the gate electrode corresponding to the first portion of the funnel and the second overlapping area between the drain electrode and the gate electrode corresponding to the second portion of the funnel”.

4. With regard to **claims 28-29**: closely related art is Lee et al (6,274,884 B1).

However Lee et al do not teach the limitation “wherein the channel is part of a semiconductor layer having a shape of a funnel having a left portion and a right portion in a plan view, an overlapping area between the source electrode and the gate electrode corresponding to the left portion of the funnel and an overlapping area between the drain electrode and the gate electrode corresponding to the right portion of the funnel” should be replaced by: “wherein the channel is part of a semiconductor layer having a shape of a funnel having a first portion and a second portion in a plan view, said second portion displaced from said first portion along the length direction of the funnel, an overlapping area between the source electrode and the gate electrode corresponding to the first portion of the funnel and an overlapping area between the drain electrode and the gate electrode corresponding to the second portion of the funnel”.

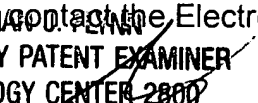
5. With regard to **claim 31**: closely related art is Lee et al (6,274,884 B1). However, in Lee reduction of parasitic capacitance is achieved structurally by the shape of the source electrode rather than by the shape of the gate electrode as recited in the final two lines of claim 31 (see for comparison the abstract in Lee et al).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johannes P. Mondt whose telephone number is 571-272-1919. The examiner can normally be reached on 8:00 - 18:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Johannes P. Mondt  
ADVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

JPM  
March 16, 2005